The National Center for Academic Transformation

Experts in improving learning and reducing cost in higher education.

The Learning MarketSpace, April 2008

A quarterly electronic newsletter of the National Center for Academic Transformation highlighting ongoing examples of redesigned learning environments using technology and examining issues related to their development and implementation.

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CENTER CHRONICLES

Featuring initiatives to scale course redesign through state- and system-wide redesign programs

Mississippi Institutions of Higher Learning Hold Second Redesign Workshop

On February 28, 2008, redesign teams from the eight Mississippi Institutions of Higher Learning (IHL) participated in a second planning workshop in Jackson, MS as part of the IHL Course Redesign Initiative. More than 100 faculty, administrators and technology staff from **Alcorn State University, Delta State University, Jackson State University, Mississippi State University, Mississippi Valley State University, University of Mississippi** and **University of Southern Mississippi** presented their ideas for redesign in anthropology, biology, chemistry, computing, English composition, mathematics, nutrition, psychology, statics, statistics and technical writing. IHL expects to award up to 15 grants to support redesign projects. It is anticipated that most course redesign projects can be completed for $50,000, and most awards will be in this range. An additional $50,000 per project may be awarded to projects of exceptional merit requiring significant equipment purchases (e.g., establishing a mathematics emporium). Teams are currently engaged in final planning and will submit their proposals on June 15, 2008. Grant awards will be made by June 30, 2008. To learn more, see http://www.thencat.org/States/MS.htm or contact Lynn House at lhouse@ihl.state.ms.us.

SUNY Course Redesign Proposals Under Consideration

The State University of New York (SUNY) has established a major course redesign initiative, in partnership with the National Center for Academic Transformation, for its 64 member institutions. During the 2007-2008 academic year, the

program expects to award up to10 departmental grants of $40,000 for activities over the three-year period of the initiative. On April 18, 2008 , proposals were received from **Buffalo State College, SUNY at Canton, Erie Community College, SUNY at Fredonia, Niagara County Community College, SUNY College at Old Westbury, Onondaga Community Colleg , SUNY at Oswego, SUNY at Potsdam** and **SUNY at Stony Brook**. These proposals, currently under review, are in a variety of academic fields including biology, economics, English, history, information systems, math, physics, Spanish and statistics. For more information about the SUNY initiative, see http://www.thencat.org/States/SUNY.htm or contact Patricia Pietropaolo at Patricia.Pietropaolo@suny.edu.

What Does NCAT Mean by "Pilots"?

Immediately following this item are a number of updates provided by redesign teams from the Tennessee Board of Regents and a description of "post-pilot" workshops in Maryland , Tennessee and Arizona . NCAT recommends that every large-scale redesign project conduct a "pilot" of their redesign before moving to full implementation. What do we mean by a pilot? A pilot involves testing the redesign idea, including most if not all of the important quality improvement and cost savings characteristics of the planned redesign, with a sub-set of students enrolled in the course. Enrollment in the pilot section(s) needs to be large enough so the redesign team can learn what problems students are likely to face and how to resolve these prior to scaling up to full implementation in all sections of the course. The pilot period provides an opportunity for the redesign team to uncover technology issues or any problems with newly designed assignments or activities that might emerge. For some institutions, the pilot term also provides a time to collect consistent data on student learning from both traditional and redesign sections that can be compared when consistent historical data are not available. For many institutions, the pilot has provided a time to make sure that important audiences both on and off campus have been informed of changes in the course and to be sure that all potential "bumps in the road" have been smoothed. Overall, a pilot provides the redesign team with a "dress rehearsal" of the redesigned course and an opportunity to resolve any issues that may arise. Teams have learned that it is much easier to solve problems with 150-200 students rather than with 1,000 students!

Tennessee Developmental Studies Pilots Are Underway

Six Tennessee Board of Regents (TBR) institutions participating in the Developmental Studies Redesign Initiative, supported by the Fund for the Improvement of Postsecondary Education (FIPSE), are engaged in the first of three pilots of their course redesigns in developmental math and English. Here's an update on their progress so far.

Austin Peay State University (APSU) began the pilot of its Structured Learning Assistance (SLA) program during the summer 2007 term. SLA allows students to earn core course credit in mathematics while completing their developmental requirements. Students attend a traditional three-hour, college-level course and participate in a supplemental two-hour workshop each week which provides a review of course concepts and individualized instruction on prerequisite course competencies. The SLA program at APSU has only been operational for one semester, but initial results look promising. The success rates in SLA-supported sections of two core courses, Statistics and Mathematical Thought and Practice, was 69.6% and 50.0% respectively compared to first-time success rates of 43.5% and 28.7% for students who took the developmental courses followed by traditional core courses in a subsequent term. In addition to increasing student success rates, the SLA program reduced classroom space requirements, decreased costs for students by more than $450 per student and contributed more than $100,000 to the university's budget by decreasing costs and increasing revenue. To learn more, contact Martin Golson at golsonm@apsu.edu.

The redesign project at **Cleveland State Community College** includes six math courses: three developmental math courses (Basic Math, Elementary Algebra and Intermediate Algebra) and three college-level math courses (College Algebra, Finite Math and Introductory Statistics.) The redesign format for each course is the same: each class meets as a group for one hour a week in a computer lab, and students are required to spend two additional hours in a 60-station computer lab each week. Each course has been organized into 10 to 12 modules, and students are required to complete at least one module per week. Halfway through the first semester of the project, both students and faculty are seeing many positive aspects of the redesign. Students are fully engaged, working both in the classroom and in the lab. Students who struggle can receive individual help as needed. Faculty are spending less time in their offices and more time helping students in the classroom and in the lab. Students are taking advantage of the ability to progress more quickly through the courses if they wish to, with many students finishing one course early and immediately starting the next one. Finally, students seem to be doing better in the courses as a result of the redesign and preliminary data suggest that student pass rates are going to increase. To learn more, contact John Squires at jsquires@clevelandstatecc.edu.

Columbia State Community College (CSCC) is conducting the first pilot of its reading/writing redesign. This phase is characterized by two changes to the traditional remedial and developmental reading/writing programs: two courses in each program have been combined, condensing two six-hour courses into two three-hour courses, and a software component has been introduced into each program. Reading and writing faculty are hard at work developing the seven one-hour modules that will premiere in fall 2008. In lieu of the traditional course length of fifteen weeks, each module (four for writing and three for reading) will last five weeks. All modules will be part of hybrid courses that meet only once per week for eighty minutes. Some modules may be taken concurrently while others are prerequisites for more advanced modules. Registration for the fall 2008 term began on April 7, 2008, and new students have already begun testing to determine their placement into modules. CSCC has implemented a mandatory student advising plan that, among many other benefits, will help acquaint students with the redesigned programs. To learn more, contact Victoria Gay at vgay@columbiastate.edu.

Faculty members on the redesign team at **Jackson State Community College** have broken three developmental math courses into 12 modules. Each student will be assigned the modules needed by his or her program of study based on diagnostic testing. During the initial phase of the redesign, students are completing modules within the three courses and will start the next semester on the particular module they need. There are approximately equal numbers of traditional and redesigned sections this semester. The redesigned sections are being held in the new SMART Math Center. Two sections of up to 30 students each are held in the center simultaneously. Additional open seats for students who want to drop in for assistance are also available. That assistance is furnished by the instructors of the classes in session, by instructors holding some of their office hours in the center and by tutors (peers, adjuncts, and retired teachers.) There is also a "coach's corner" where an instructor can work with students who have not passed a post-test on a particular module. The math faculty have developed study guides to assist students. These guides include target dates for work to be completed in order for a student to finish the course by the end of the semester. While the new developmental math courses are individualized, they are not self-paced. Some students need motivation to get work completed; others--especially non-traditional students and those who only need a refresher--are staying ahead of the schedules. Several students will

complete two courses by the end of the semester. Some have completed the modules for one course and have begun the next module, giving them a head start on the next semester. To learn more, contact Mary Jane Bassett at mbassett@jscc.edu.

Northeast State Technical Community College is currently piloting a reading emporium to help students improve their reading skills and achieve expected learning outcomes. Fifty students are enrolled in the redesigned reading course. With the assistance of technology, the piloted course has moved away from the traditional course delivery to a learner-centered, active-learning mode supported by high-quality, web-based, interactive, modularized learning software. Instead of meeting as a class, students are required to spend three hours weekly in a reading center where individualized assistance is available from the instructor and reading center assistants who focus on specific student learning needs. The redesign also allows the students the flexibility to plan their own learning and encourages students to become more motivated to participate in the learning process and more active in achieving their learning goals. Although this is the first pilot of a three-phase redesign, much has already been learned, including both successes and challenges. The impact of the course redesign on student learning outcomes will be assessed, and the redesign will be revised and modified as necessary based on feedback and the analysis of the data collected. An improved version of the redesign will be implemented during the second pilot in fall 2008 and the third pilot in spring 2009. To learn more, contact Xiaoping Wang at XPWANG@northeaststate.edu.

To learn more about the TBR initiative, see http://www.thencat.org/States/TBR.htm or contact Treva Berryman at Treva.Berryman@TBR.edu.

Post-Pilot Workshops Scheduled in Maryland, Tennessee and Arizona

States and systems that partner with NCAT in a course redesign program ask participating institutions to conduct a pilot of their redesign plans as described above. One of our goals in partnering with states and systems is to develop capacity in course redesign within those states and systems. As part of that effort, we bring redesign project teams together after the campus pilots have been completed in a one-day, face-to-face workshop that provides a forum for teams to share their experiences and learn from one another. Teams from all participating institutions share their initial findings regarding learning and retention outcomes, cost containment and implementation issues. Teams receive feedback from the group as well as from NCAT and system staff. Three of our partners have scheduled the following workshops:

On May 30, 2008, the redesign teams from the **University System of Maryland** (USM) will gather in Baltimore, MD to provide updates after their pilot terms and discuss the successes and challenges they have encountered thus far. Projects include **Coppin State University**: Beginning and Intermediate Algebra; **Frostburg State University**: General Psychology, **University of Maryland, BaltimoreCounty**: Introduction to Psychology; **University of Maryland, College Park**: Social Psychology; **University of Maryland Eastern Shore**: Principles of Chemistry; **University of Maryland School of Nursing, Baltimore**: Context of Health Care Delivery; and, **University of Maryland University College**: Concepts of Biology. In addition, USM has invited other campus teams who are implementing some aspects of course redesign to participate. Each of these institutions will move to full implementation of their redesigns in fall 2008. Abstracts describing these projects along with contact information are available at http://www.thencat.org/States/USM/USM%20Project%20Descriptions.htm. To learn more about this initiative, contact Don Spicer at dspicer@usmd.edu or Nancy Shapiro at nshapiro@usmd.edu.

A similar workshop will occur on June 5, 2008, in Nashville, TN for the six institutions participating in the **Tennessee Board of Regents'** Developmental Studies Redesign Initiative. Projects include **Austin Peay State University**: Elementary Algebra and Intermediate Algebra; **Chattanooga State Technical Community College**: Basic Math, Elementary Algebra and Intermediate Algebra; **Cleveland State Community College**: Basic Math, Elementary Algebra and Intermediate Algebra; **Columbia State Community College**: Basic Reading, Developmental Reading, Basic Writing and Developmental Writing; **Jackson State Community College**: Basic Math, Elementary Algebra and Intermediate Algebra; and, **Northeast State Technical Community College**: Basic and Developmental Reading. These projects will conduct a second pilot of their redesigns in fall 2008. Abstracts describing these projects along with contact information are available at http://www.thencat.org/States/TBR.htm. To learn more about this initiative, contact Treva Berryman at Treva.Berryman@TBR.edu.

On June 18, 2008, 13 teams participating in the **Arizona Board of Regents**' Learner-Centered Education Course Redesign Initiative will gather in Phoenix, AZ to share experiences from their spring 2008 pilots and discuss outcomes achieved by the redesigns to date. After making any needed revisions to their redesign plans during the summer, the teams will fully implement their plans in fall 2008. Projects include courses in accounting, college algebra, chemistry, computing, geology, organizational management and leadership, public speaking and women in society at **Arizona State University**; biology and psychology at **Northern Arizona University**; and, biology, chemistry and geology at the **University of Arizona**. Abstracts describing these projects along with contact information are available at http://www.thencat.org/States/ABOR.htm. To learn more about this initiative, contact Maryn Boess at Maryn.Boess@asu.edu.

Phase III of Texas Redesign Initiative Takes First Steps

The Texas Higher Education Coordinating Board (THECB) has awarded grants to 18 institutions across the state of Texas to redesign courses to improve student learning and reduce instructional costs as part of the Phase III of the Texas Course Redesign Initiative. Earlier phases of this initiative have focused first on courses that were already nearly redesigned and then on those on a fast-track by expanding efforts already underway. Phase III is focused on developmental and entry-level college courses, which are being redesigned individually or in pairs. NCAT conducted a planning workshop for redesign teams in Dallas, TX on January 31, 2008, and is providing individualized consultation to those teams who want to refine their initial redesign plans based on NCAT's planning methodology. Several project teams have begun to test some aspects of their redesigns in pre-pilot efforts during the spring 2008 term. The institutions working with NCAT are: **Del Mar College**: College Algebra; **RichlandCollege**: Developmental Writing; **Texas Woman's University**: Developmental Math paired with Computer Literacy; **University of NorthTexas**: Developmental Math and College Algebra; **University of Texas at Brownsville**: Developmental Math and Elementary Statistics; Developmental Reading paired with Government; and **University of Texas at El Paso:** Developmental English and English Composition.

Del Mar College recently completed preparations for its redesign pilot of College Algebra. Although some aspects of the redesign were implemented in fall 2007, the spring 2008 pilot expanded the number of instructors, students and course sections involved. The course redesign includes multiple models: 1) the Supplemental Model where students meet face-

to-face in a computer classroom three hours each week; 2) the Fully Online Model where students never meet face-to face; and 3) a dual-credit model where high school students are taught fully online with the help of a high school teacher. Quality improvements, such as using hyperlinked electronic textbooks and instructional software, benefit both students and instructors and include course management, frequent assessment, early intervention, immediate feedback, direct communication, tracking, 24/7 access, a grade book, help features, individualized assignments, and practice. To measure student learning outcomes, the team will use a pre- and post-test. The pilot will continue through summer 2008 with additional course sections and faculty. Other math instructors are enthusiastic about the project and are interested in participating next year. To learn more, contact Ann Lopez at glopez@delmar.edu.

Richland College is using a phased approach to redesigning two sequential, three- hour Developmental Writing courses. The courses suffer from DFW rates of more than 50% in some semesters. During the initial redesign phase in fall 2007, two 16-week writing courses were shortened to eight weeks each and linked as learning communities. Houghton-Mifflin's instructional software package *Eduspace* and ETS's essay-grading software *Criterion* provide students with modularized course content and immediate feedback on writing samples. The newly redesigned course integrates study skills workshops on a variety of subjects including learning styles and test anxiety. The pilot period will provide instructors the essential opportunity to analyze the strengths and weaknesses of the new software and allow them to work with students operating at a variety of proficiency levels in a single classroom setting. Richland is currently using a Supplemental Model in the first pilot and plans to move to the Replacement Model by the end of the redesign process. The pilot involves one section of 20 students, and the plan calls for expanding to five sections with 100 students by fall 2008. To learn more, contact Doug Wilson at Doug.Wilson@dcccd.edu.

The project team at **Texas Woman's University** (TWU) is focused on developing its final redesign plans for pairing Developmental Math and Computer Literacy courses. Faculty are currently teaching pre-pilots in each course in an effort to finalize content and instructional approaches for pilots that will be conducted in fall 2008. The redesign team is also actively involved in finalizing assessment plans and gathering baseline data. At this time, the plan is to use a Replacement Model for the Developmental Math course. For the fall pilot, faculty will teach one section in a large classroom but will utilize undergraduate and graduate assistants to oversee small group interactions and computer-based assignments outside that classroom at a scheduled time. The goal is to promote an active learning environment that will better engage students. The Computer Literacy course is being redesigned using the Replacement Model to expand active learning activities including web-based interactive learning modules. For the fall pilot, TWU will teach one large section outside the commonly used computer classroom environment. In-class time, once per week, will be dedicated to clarifying difficult concepts, answering questions on content that is posted online and conducting small group activities. The team has also identified common elements and projects that will support a degree of integration between these two courses. To learn more, contact Don Edwards at dedwards@twu.edu.

In the fall 2008 term, the **University of Texas Brownsville/Texas Southmost College**, (UTB/TSC) will pilot a redesigned College Reading course linked with an online government course. Full implementation will follow in spring 2009. Using the Replacement Model, the redesign will emphasize active learning as well as small group and peer interaction and evaluation. Two-thirds of the contact hours in the reading course will occur in class where students will integrate and apply the active reading and strategic learning outcomes of the reading course through the content and tasks of the linked online government course. The additional one-third of the contact hours will be spent in a computer lab where students will work with several software options as well as undergraduate teaching assistants to help them integrate and apply the knowledge learned in the reading classroom as it is relevant to the government course. During the fall 2008 pilot, learning outcomes from sections of the linked courses will be compared to sections of the two courses offered in their traditional formats. The LASSI, a nationally standardized assessment, will be used to pre-test and post-test students in both versions. A rubric or other form of measurement has been designed for each of the student learning outcomes, and all data will be entered into Blackboard's Outcomes Assessment. In addition, tracking data obtained from previous semesters will allow the team to compare the students' pass/fail and completion rates. Students who are placed into College Reading will be notified of the opportunity to participate in the redesigned paired courses. Collaboration among the registrar's office, academic advising, the testing office, the dean of students, and the faculty in both departments is very important in disseminating information to students and recruiting qualified participants. UTB/TSC will also develop a brochure and a web site, and will advertise the new course in the college newspaper and the local newspaper. To learn more, contact Leslie Jones at Leslie.Jones@utb.edu.

The **University of North Texas** (UNT) is redesigning its College Algebra and Intermediate Algebra courses. The plan is to pilot two sections of each course and two sections of accelerated Intermediate Algebra/College Algebra in the fall 2008 semester. Using the Emporium Model, UNT will require students to work in the computer lab using *MyMathLab* for three hours per week and attend class one hour per week. Students are expected to master the skills and knowledge needed to continue with subsequent math courses through repeated problem-solving. Classroom activities serve two purposes. Some will introduce upcoming topics; others are designed to accomplish learning objectives that are not easily mastered in the lab. For this second category of activities, students will work in groups on applied problems that are related to the technical material they are learning in the computer lab. These activities are designed to give students an appreciation of the applicability of mathematics. The six pilot sections will involve approximately 200 students. The computer lab will have approximately 40 workstations and will be open 35 hours per week. Full implementation is planned for the fall 2009 semester with approximately 1200 students enrolled in Intermediate Algebra and 2000 in College Algebra. To learn more, contact Phil Turner at pturner@unt.edu.

The University of Texas at El Paso (UTEP) is linking expository composition workshops with expository English composition. The composition workshops were developed to mainstream higher-level developmental writing students into a college-level English course. An earlier grant from the THECB provided funding to redesign the course from a two-hour per week, face-to-face format to a hybrid format (one hour face-to-face, one hour online), specifically for use with the English composition course. The current effort is focused on refining the modules developed under the prior grant to allow them to be used by non-developmental freshman composition students. The revisions are proceeding on schedule, and the redesigned course modules will be introduced in fall 2008 in the expository composition workshops. The module design team has broken up the original 15 modules into approximately 45 shorter modules, with each now designed to teach one writing concept. Each module contains automatic feedback on concepts in the form of quizzes. To learn more, contact Dorothy Ward at dpward@utep.edu.

To learn more about the Texas initiative, contact Kevin Lemoine at Kevin.Lemoine@THECB.state.tx.us or Vanessa Davis at Vanessa.Davis@THECB.state.tx.us.

THE REDESIGN ALLIANCE

Featuring updates from the Alliance, a member organization of institutions, organizations and companies committed to and experienced with large-scale course redesign

The Redesign Alliance Second Annual Conference Attracts Over 400 Participants

On March 16-18, 2008, more than 400 faculty, academic administrators and technology experts gathered in Orlando, FL to learn more about course redesign. On Sunday afternoon, about 200 people attended a Newcomer's Session, which provided an opportunity for those new to course redesign to learn how best to take advantage of the conference program. An opening reception and corporate exhibit hall formally kicked off conference activities.

The conference began on Monday morning with a keynote address by Kati Haycock, president of the widely respected DC-based Education Trust and a member of the Spellings Commission on the Future of Higher Education, entitled, "The National Context: Why We Need to Do More About Access and Success." Following the opening plenary, attendees participated in one of nine disciplinary showcases and discussion sessions in the academic areas of humanities, natural sciences, social sciences and the quantitative fields. These sessions provided an opportunity for attendees to discuss specific issues and challenges related to their particular academic areas. A special session for academic administrators attracted more than 80 participants.

On Monday afternoon, concurrent sessions featured 30 new course redesigns in diverse academic areas. Those currently involved in redesign discussed how they are implementing their ideas and what is needed in order to do so successfully. The day culminated with a plenary panel, "Change Strategies: State- and System-wide Course Redesign" and included Jerry Hogle, Interim Vice President for Instruction and Dean of University College, University of Arizona; Tom Meredith, Commissioner, Mississippi Institutions of Higher Learning; Risa Palm, Provost and Vice Chancellor for Academic Affairs, State University of New York. The panelists addressed the importance of moving from a single course redesign to the entire institution and from one institution to an entire higher education system.

Tuesday morning included ten concurrent sessions focused on Hot Topics in Course Redesign such as How To Get Started, Working With Commercial Software and Use and Re-use of Materials. These topics were identified by members of the Redesign Alliance as those they were most interested in discussing. Each session was kicked off by those who have experienced success in relation to the topic and included discussion among the participants. A Feedback Forum led by the Redesign Scholars provided guidance and ideas to teams who are thinking about initiating a course redesign on their campus.

The conference concluded with a plenary panel, "Assessing Student Engagement: NSSE and CCSSE," featuring Peter Ewell, George Kuh and Kay McClenney. This panel discussed how institutions can collect and use data to identify aspects of the undergraduate experience that can be improved through intentional changes focused on undergraduate teaching and learning.

Throughout the conference, corporate members of the Alliance sponsored hospitality suites where attendees could learn about various products and services that can be used in course redesign. These suites were overrun by participants, indicating a high level of interest in gaining practical knowledge that can be incorporated in course redesign. Corporate participants included Blackboard, Cengage Learning (formerly Thomson Learning), Educational Testing Service (ETS), Hawkes Learning, Houghton Mifflin, McGraw Hill, Pearson Education, SMARTHINKING and WebAssign.

Comments from participants were enthusiastic and indicated that the conference gave them practical advice and inspired them to think differently. These comments were echoed by the Redesign Alliance Advisory Board which met on Tuesday afternoon after the close of the Annual Conference. Attendees left the conference energized and ready to move forward on their redesign ideas. We look forward to seeing you in Orlando again next year!

To join the Redesign Alliance, see http://www.thencat.org/RA.htm.

Conference Presentation Slides and Projects Links Now Available on NCAT Web Site

Slides from most of the 2008 Redesign Alliance Conference presentations are available on the NCAT web site at http://www.thencat.org/RedesignAlliance/Agenda08.htm linked to each presenter on the agenda. To learn more about the speakers' redesign projects, click on the speaker's institution name listed on the agenda.

Workshop at Louisiana State University Features the Math Emporium

Jointly sponsored by the Redesign Alliance and **Louisiana State University** (LSU), a workshop on math redesign was held on April 17, 2008, in Baton Roug , LA and attended by 25 participants from across the United States. Redesign team leader, Phoebe Rouse, and her colleagues discussed all aspects of the highly successful redesign of College Algebra, which enrolls more than 4000 students annually using the Emporium Model. Attendees were able to learn about both academic and administrative aspects of the redesign and to talk with students studying in two labs. They also learned about how the LSU project got started, what issues the team faced in implementing their redesign and what learning improvements and cost reductions LSU has achieved. Since the initial course redesign, the LSU lab has nearly doubled in size to include two additional courses. Workshop participants included faculty, academic administrators and technology professionals, with different questions and different issues, seeking greater understanding about the specifics of this model. To learn more about the LSU project, see http://www.thencat.org/R2R/Abstracts/LSU_Home.htm or contact Phoebe Rouse at prouse@lsu.edu.

COLLEAGUES COMMITTED TO REDESIGN (C^2R)

Featuring progress reports and outcomes achieved by the C^2R program

First Round of C^2R Projects Pilot Redesigns with Good Results

Building on lessons learned in the Program in Course Redesign and the Roadmap to Redesign, the Colleagues Committed to Course Redesign (C^2R) program is demonstrating how colleges and universities can redesign their instructional approaches using technology to achieve quality enhancements as well as cost savings. Redesign projects focus on large-enrollment, introductory courses, which have the potential of impacting significant student numbers and generating substantial savings. Each project in Round I piloted its redesign during the fall 2007 term.

Boise State University has completed a pilot redesign of Introduction to Financial Accounting and Introduction to Managerial Accounting, two introductory courses enrolling ~1700 students annually. The purpose of the redesign was to maintain or improve the quality of the student experience in a new, large-section environment while freeing up some faculty time previously devoted to delivering these two courses. The Department of Accountancy is generally pleased with student performance and satisfaction in the pilot. The quality of student learning has been improved by using undergraduate learning assistants to provide individualized help in labs, incorporating publisher-provided computer resources such as Homework Manager and adding frequent, low-stakes online quizzing to provide frequent feedback to students. By creating larger sections, the redesign had made it possible to redirect a substantial amount of tenure-track faculty time to research in support of the university and college strategic plans. Assuming that the expected improvement in student performance and satisfaction results are obtained in subsequent semesters, the redesigned courses, which are self-sustaining, will be fully implemented. To learn more, contact Paul Bahnson at pbahnson@boisestate.edu.

Cosumnes River College (CRC) has completed a pilot redesign of Elementary Algebra which enrolls ~1200 students annually. The goals of the redesign were to increase student success rates and to combat a growing problem of course drift, which meant that students arrived at the next course in the sequence with widely differing levels of preparedness. The proportion of students who reached minimum competency (a score of 70% or higher on the final exam) was significantly higher in the redesigned sections than in the traditional format (51.2% vs. 39.7%.) CRC also reduced overall DFW rates from 77.8% in the traditional to 65.4% in the redesign. Student learning was enhanced by using *MyMathLab* software, providing one-on-one assistance from automated feedback on quick quizzes, experienced student aids and a "coach in the corner" and requiring students to keep help math journals and completed pencil-and-paper assignments. CRC planned to reduce the cost-per-student by adding 3-4 students per section. However, this small increase in class enrollment did not materialize because of classroom scheduling issues. Future redesigned sections will target larger math classrooms. During the spring 2008 semester, the redesign team has increased the number of pilot sections and the number of piloting instructors. This incremental expansion is expected to continue in fall 2008. To learn more, contact Mary Martin at martinms@crc.losrios.edu.

Hagerstown Community College (HCC) has completed a pilot redesign of College Algebra which enrolls ~745 students annually. The two goals of the pilot were to address current and projected increased demand for the course as well as improve the student performance rate. The redesign has produced equal to better student performance with substantial improvement in course completion rates. In fall 2006 and fall 2007, 9.9% and 8% of students taking the course in the traditional mode respectively withdrew. In the redesigned fall 2007 sections, 5.6% withdrew. Attendance noticeably improved, and a great majority of students liked both the software and the immediate feedback. The quality of student learning has been enhanced with software tutorials and low-stakes quizzes, engaging students in active learning. Instruction and individualized assistance were provided by a team of faculty and tutors, improving the efficiency of the teaching and learning process. HCC saved operating costs and made classrooms available for other departments by reducing the number of sections and increasing their size. The plan was to reduce the number of sections from 33 to 19 with an increase in section size from ~25 to 40. HCC intends to fully implement the redesign in spring 2008 when all College Algebra students will use the redesign model, enrolling in seven sections of 40 students each. In fall 2008, 10 sections of 40 students each will be offered. A key to sustainability is the continuing administrative support for the redesign as well as positive student performance and their acceptance of the redesign. To learn more, contact Bob Carson at carsonr@hagerstowncc.edu.

Harry S. Truman College in Chicago has completed a pilot redesign of College Algebra, a gatekeeper course enrolling ~200 students annually. The purpose of the redesign was to improve student success and completion rates. Based on the results of the fall 2007 implementation, senior administrators have renewed their strong commitment to having the redesign move to full implementation. A dedicated math lab equipped with software will be created. Students are excited by the new format which augurs well for future enrollment growth. Student learning was enhanced using *MyMathLab* to support personal learning styles, construct customized study plans and to provide immediate feedback on quizzes and homework. Student mentors provided support with nonacademic issues affecting student performance. The cost reduction plan was to increase section size to accommodate increased enrollment. Although fall 2007 enrollment was stable, spring 2008 enrollment has shown signs of growth with two sections exceeding the enrollment cap of 35. This incremental growth is expected to continue, supported by a trained pool of adjuncts as well as the creation of a new computer lab dedicated to the redesign. To learn more, contact Sheila McNicholas at smcnicholas@ccc.edu.

Indiana State University has completed a pilot redesign of General Psychology which enrolls ~1000 students annually. The goals of the redesign were to improve student performance, reduce the DFW rate and to eliminate course drift as well as inconsistency of the material covered. Students in the redesigned course who completed the final exam averaged 87% as contrasted with an average score of 81% by students in the traditional sections. Slightly more students (18.5%) in the traditional sections received grades of F or withdrew (W) from the course than did students in the redesigned sections (12.4%), and this difference approached significance. The quality of student learning has been improved through mastery quizzes with immediate feedback and the opportunity for grade improvement. A personal response system and small group discussions facilitated active student participation. Cost savings were anticipated through greater instructional efficiency associated with larger course sections and use of undergraduate peer leaders to run discussion groups. Key indicators are trending appropriately. Fewer sections were offered in fall 2007 (N=10) than fall 2006 (N=15), and fewer graduate students were deployed to teach them in fall 2007 (N=6) than in fall 2006 (N=8). The average section size has increased from 48 students to 65 students. Instructional costs will be further reduced when peer leaders are used to running the discussion groups, the final step in the implementation process. Department faculty support continued implementation and evaluation. To learn more, contact Karen Schmid at kschmid@isugw.indstate.edu.

Indiana University of Pennsylvania (IUP) has completed a pilot redesign of Principles of Biology, enrolling ~200 students annually. The purpose of the redesign was to reduce the high DFW rate (~50%) and to meet increased enrollment demand in a period of constricted funding. Although students in the redesigned sections did not learn a significantly greater amount of base content, they were able to apply the content to problem-solving much better than the students in the traditional course. There was a very large difference in student performance on the essay portions of the exams (traditional=55%; redesign=65%). The percent of students getting a D or F on the first exam was comparable in

both sections but, by the third exam, there was a profound difference between the two sections (67% D or F traditional and 42% D or F redesigned). The quality of student learning was enhanced by an active learning environment. Students, using online preparation pages, were better prepared for in-class discussions. Weekly quizzes with pre- and post-assignments helped students do better on the essay portion of the exams covering concepts. Online quizzes and a student-response system provided many rapid feedback opportunities to assess progress and remedy deficiencies. IUP planned to reduce the cost-per-student by increasing enrollment and serving them with the same personnel. The course redesign will continue to be implemented in the section taught by the redesign team but not in the other sections which will use the traditional methodology. To learn more, contact Nicholas Kolb at nekolb@iup.edu.

Lorain County Community College (LCCC) has completed a pilot redesign of General, Organic and Biochemistry, a key course for several majors which enrolls ~500 students annually. Enrollment is projected to grow to 600 students annually. The goal of the redesign was to improve student success and reduce the DFW rate. Prior to the redesign, the course had a 49% student success rate and a 2.10 course grade point average. The fall 2007 pilot resulted in a 76% student success rate and a 2.67 course grade point average. The quality of student learning was enhanced through consistency of instruction, pairing lectures with specific lab sections and enabling students to freely move between lectures and labs. Simulations and more engaging labs led to a large increase in retention. LCCC's planned cost strategy included increasing section size to meet the projected enrollment growth. The initial movement of class size in the online section from 20 to 25 had no negative impact. Land-based sections of 72 have been as successful as the smaller sections. The college is very committed to the redesign of all of the top 30 enrolled courses. The redesigned chemistry course should be sustainable and will serve as a model for all laboratory science courses that will need to be redesigned. To learn more, contact John Crooks at jcrooks@lorainccc.edu.

St. Cloud State University (SCSU) has completed a pilot redesign of Preparatory Chemistry, a gateway course for science majors enrolling ~800 students annually. The purpose of the redesign was to increase the success rate of a diverse student population in a new, large-section environment and to reduce both course drift and the DFW rate. During fall 2007, the pilot was conducted in a large section of ~72 students. The final exam average was 60.5% compared to an average of 55.7% in the traditional format. Student mean scores on the first course exam in spring 2008 were 5 points higher than in previous semesters. Student learning was improved by incorporating the *ALEKS* online tutorial system. This program allowed students to have an interactive experience with the content outside of class, enhancing their understanding of the material. Undergraduate Learning Assistants were used to support the inquiry-based and active learning activities in the classroom and in the pre-laboratory section. SCSU planned to reduce costs by creating larger sections. In fall 2008, the redesign will be implemented in a 150-person section, which will produce the cost savings that are planned. Positive student achievement persuaded the faculty to support a large lecture course. Continued support depends on ongoing student success. To learn more, contact Rebecca Krystyniak at rakrystyniak@stcloudstate.edu.

Truman State University has completed a pilot redesign of British Literature Chronology, a course with unmet student demand enrolling ~90 students annually. The purpose of the redesign was to meet increasing student demand in the face of reduced resources and to enhance the students learning experience. Students in the redesigned pilot course received higher final grades than students in the traditional course, and they performed better on the final exam. Peer teaching contributed most to improving the quality of student learning. Peer teachers engaged students in weekly small-group discussions (5-6 students), providing encouragement and assistance. Students felt more prepared for each class and they participated actively. Weekly quizzes based on online resources were effective in providing learning contexts and background to the texts covered in class. The planned cost reduction strategy, when fully implemented, will increase the number of students served as well as section size. The redesign became a catalyst for new discussion among the English faculty as a whole, providing a positive example of ways in which technology supports learning. Other individual faculty members have expressed interest in learning about and possibly adopting aspects of the redesign in their courses. To learn more, contact Julie Lochbaum at Lochbaum@truman.edu.

University of North Carolina at Chapel Hill has completed a pilot redesign of Introductory Spanish which enrolls ~380 students annually. The goal of the redesign was to scale the course to meet demand, reducing or eliminating long waiting lists. Assessment of student learning found no statistically significant difference between the scores of the traditional and hybrid sections on the written exam. Students in the traditionally taught sections outperformed hybrid students on the oral exam by a small, yet significant margin. DFW rates were higher in the traditionally taught format, although this represented a very small number of students for both sections. The quality of student learning was most enhanced by small peer-led conversation groups. Students also appreciated the flexibility of the online software. Also critical to the success of this model was the availability of the peer tutoring students. Restructuring staff time and roles contributed most to reducing costs. By reducing the number of contact hours from four to one per week and standardizing course materials, instructors could teach two sections of the course equivalent to one traditional section. The team is satisfied that the redesign model can meet its primary objective of expanding course capacity by making more efficient use of instructor time and classroom facilities. As long as student learning outcomes do not slip and instructors who are a good fit with this format can be identified, the team is committed to full implementation. In fact, the team has already expanded its use of the model within its Spanish language program. To learn more, contact Bob Henshaw at bhenshaw@email.unc.edu.

The **University of West Florida** (UWF) has completed a pilot redesign of Elements of Statistics which enrolls ~500 students annually. The purpose of the redesign was to address the broad range of differences in student learning styles and quantitative skills as well as to reduce the DFW rate. In the fall 2007 pilot, students in the redesigned section performed slightly better than students in traditional sections on the comprehensive final examination. In addition, the DFW rate was 15% compared to 18% in the traditional course. Attendance was over 90% in the redesigned sections, higher than in the traditional sections. The quality of student learning was enhanced through the Hawkes Learning System which was instrumental in getting students more engaged in the course. It provides students with much needed practice and feedback when solving problems and challenges them according to their own skill level. Teaching assistants were available to assist students using Hawkes to do their assignments. Students had 24/7 access to the course syllabus, lecture notes and practice tests through e-learning and Hawkes. UWF planned to reduce the cost-per-student by consolidating ten small sections into three large lecture sections plus one smaller fully online section. The total number of faculty involved in the lecture portion of the course was reduced from ten in the spring to four in the fall. Using Hawkes also allowed a reduction in face-to-face instruction from two to one meeting a week. The redesigned course will be sustained; other faculty members are willing and eager to teach the redesigned statistics course for the coming semesters. To learn more, contact Pam Northrup at pnorthru@uwf.edu.

Project abstracts, final progress reports and contact information for each Round I C^2R project are available at www.thencat.org/RedesignAlliance/C2R/Rd1ProjDesc.htm.

C^{2}R Round II Participants Selected

Round II of C^{2}R is well underway. At the end of January 2008, the following institutions were selected: **Arizona State University**: Emergent Literacy, **Auburn University**: College Algebra, **Auburn University**: Physics, **Austin Community College**: US Government, **New York Institute of Technology:** Introduction to Psychology, **Oklahoma State University**: College Algebra, **Southeastern Louisiana University:** Intermediate Algebra, **University of Massachusetts Lowell**: Anatomy and Physiology, **University of West Alabama**: Written English and **Western Michigan University**: Chemistry.

During February and March, redesign teams collected institutional data regarding learning outcomes and costs. On April 25, 2008, the teams gathered with NCAT staff and the Redesign Scholars in New Orleans, LA for the C2R Disciplinary Institutes to learn more about course redesign and to share their preliminary redesign plans . The teams presented their choice of redesign model and how their redesign embodies NCAT's Five Principles of Successful Redesign. After each presentation, the team received feedback from other teams in their disciplines and the Redesign Scholars, who offered suggestions and guidance based on their own experience in redesign. Also participating were representatives of NCAT's Corporate Associates. Teams will submit their final course redesign plans on June 1, 2008, and will pilot their redesigns in fall 2008.

To learn more about the C^{2}R program or to apply for Round III, see http://www.thencat.org/RedesignAlliance/DissemProgram.htm or contact Kay Katzer at kkatzer@theNCAT.org.

CORPORATE CONNECTIONS

Linking content and software providers with leading edge institutions

Blackboard Provides Solutions for Engaging Students

Engaging students at the peer, course and institutional levels was the topic of the presentation of Blackboard's Deborah Everhart at the Redesign Alliance Conference described above. This presentation outlined ways to incorporate Blackboard solutions in redesign projects to increase student success not only in courses but also in their overall programs of study. For example, when students participate in peer assessment using tools integrated into their Blackboard courses, they gain self-confidence through seeing and analyzing others' work. These students receive more feedback in a timely manner with reduced faculty load. Effective scaffolding for evaluation is provided by rubrics that define the criteria for each assignment and the course objectives to be accomplished so that students have direction and understand the purposes of their work. Since student engagement does not end at the boundaries of courses, the Blackboard Academic Suite provides solutions for aligning course objectives with program and institutional goals. This broader framework supports student engagement across courses and over time enables institutions to encourage, track and, when necessary, intervene in students' progress toward degrees, thereby increasing retention and graduation rates. To learn more, see http://www.thencat.org/RedesignAlliance/2008%20Conference/Presentation%20Slides/Everhart_BBEngagingStudents.ppt or contact Deborah Everhart at Deborah.Everhart@Blackboard.com.

Cengage Learning Launches New Solutions to Support Course Redesign

Cengage Learning launched several innovative technology solutions at the Redesign Alliance Conference in Orlando. These include new opportunities in academic areas such as math (Enhanced WebAssign), science (OWL and CengageNOW™), business (Aplia), and the social sciences and humanities (CengageNOW™). Cengage Learning also introduced Custom Courseware, a customized solution geared for large, blended learning courses. With Custom Courseware, Cengage aligns content from its libraries—text, multimedia, assessment, topical articles and research papers—to the outcomes planned for a specific course redesign. Custom Courseware includes tools to monitor student performance against objectives, provide rich analytics to instructors and incrementally revise the material with the goal of improving retention and outcomes. These Cengage products provide strong support to the principles of course redesign including 1) fostering "small within large" classroom environments, 2) increasing student participation in required learning activities, 3) supporting multiple learning paths to appeal to diverse learning styles, and 4) boosting enrollment, increasing retention, and improving outcomes. To learn more about these new options, contact Julie Conover at Julie.Conover@cengage.com.

Houghton Mifflin Hosts Developmental Education Conference

On March 26-28, 2008, Houghton Mifflin's Faculty Programs Group delivered a two-day workshop for college educators who teach developmental courses in math, reading, writing and study skills. The conference brought together two hundred educators and presenters to address issues related to improving student success. A pre-conference session focused on course design and redesign. NCAT's Carolyn Jarmon discussed models and examples of redesign in developmental education. Maria Delucia, mathematics department chair at Middlesex Community College presented a course redesign she has developed in developmental math. Deborah Davis, instructional specialist, and Martha Timberlake, associate dean, both of Richland College in the Dallas Community College District, presented their redesign plans for a developmental writing course. Planning for a second developmental education conference in spring 2009 is underway.To learn more, contact, Melissa Zantello at melissa_zantello@hmco.com.

McGraw-Hill Participates in Redesign Alliance Conference

McGraw-Hill, NCAT's newest Corporate Associate, made its initial appearance at the Conference with a full complement of activities. McGraw-Hill joined other Corporate Associates in the exhibit area on Sunday evening at the opening reception and talked with many conference attendees. On Tuesday morning, McGraw-Hill hosted one of the sessions entitled "Working with Commercial Software". Gary Hagerty, a professor at Black Hills State University, described how using *ALEKS*, a student-centered, performance-based software program, in the context of current educational theories has led to improved student performance and lower costs in his College Algebra course. Throughout the conference, McGraw-Hill welcomed NCAT attendees to their suite to complete an in-depth survey of how they use technology in their courses. For more information about this project, contact Alice Cherry at Alice_Cherry@McGraw-Hill.com. To view Gary Hagerty's slides, click on his name at http://www.thencat.org/RedesignAlliance/Agenda08.htm

Pearson Education To Hold Fall 2008 Workshop

Building on a highly successful fall 2007 workshop and the strong interest at the Redesign Alliance in Orlando last month, Pearson is planning for a workshop on course redesign at the Westin La Paloma Resort and Spa in Tucson, AZ on October 17-18, 2008. Participants will learn more about how to get started in course redesign from NCAT's Carolyn Jarmon and from large- and small-group interaction with experienced educators in math, chemistry, economics, English composition, developmental reading and writing, and foreign languages. Online registration for the event will begin in June at www.pearsoncourseredesign.com If you need an access code or more information about any of the 58 Pearson MyLabs and Mastering Science products seen at the Redesign Alliance Conference, please visit www.pearsonhighered.com or contact Karen Mullane at karen.mullane@pearson.com.

COMMON GROUND

Reporting on initiatives that share the Center's goals and objectives

Carnegie Mellon Offers Summer Workshop Supporting Course Redesign

The Carnegie Mellon University (CMU) Open Learning Initiative (OLI) will offer a free summer workshop supporting course redesign from July 7 through July 11, 2008. Using intelligent tutoring systems, virtual laboratories, simulations, and frequent opportunities for assessment and feedback, OLI builds courses that are intended to enact the kind of dynamic, flexible and responsive instruction that fosters learning. Two tracks will be offered. Track 1 is the instructor track. This workshop will last for two days and will support instructors in using existing OLI online materials and in customizing lab activities and content to fit particular redesign needs. This track will also prepare faculty for participation in CMU's ongoing evaluation studies and in its community of research and use. Track 2 is the developer track. This workshop will last for five days and is designed for faculty or institutional instructional technology groups who want to build effective online courses and materials using the OLI development and delivery environment. This track is designed for development teams of at least two to three people: a faculty content expert, a technology support person and an instructional designer or learning scientist. For more information or to register, visit www.cmu.edu/oli/.

Oklahoma Conference Focuses on Redesign Ideas

On April 4, 2008, Oklahoma State University hosted a statewide conference on Advancing Strategies for Teaching and Learning Excellence in Stillwater, OK. Three faculty speakers discussed effective and innovative strategies, techniques and tools to enhance teaching and facilitate learning. Although they come in different forms and are called by different names, the three projects share the goal of making undergraduate lower division courses more engaging, team-based and student-oriented. Each approach focuses on active learning and higher-order thinking skills on the part of the students. John Harwood of Penn State University described a highly successful statistics redesign that was part of NCAT's Program in Course Redesign and discussed how Penn State has sustained the redesign beyond the retirement of the early developers. Bob Beichner of North Carolina State University described the SCALE-UP approach in physics which includes a hands-on, interactive learning environment for students. Alan Cheville of Oklahoma State University discussed a National Science Foundation engineering project that teaches students problem-solving to help them develop skills needed after graduation to function more effectively as engineers in the workplace. The full conference agenda can be found at http://itle.okstate.edu/index.php?option=com_content&task=view&id=142&Itemid=221.

Update on the Math Success Project

During the 2008 Redesign Alliance Conference, Danette Gerald from the Education Trust and Ron Henry from Georgia State University and an NCAT Redesign Scholar provided an update on the Math Success Project: Using Data to Improve Student Achievement in College-Level Mathematics. The National Association of System Heads (NASH) and the Education Trust have launched this initiative which is designed to assist public university systems in examining success patterns and outcomes related to student performance in entry-level mathematics courses. The nine systems joining NASH and the Education Trust in this project are State University System of Florida, University System of Georgia, University of Hawaii System, Purdue University (Indiana), Kentucky Council on Postsecondary Education, University of Louisiana System, Mississippi Institutions of Higher Learning, Nevada System of Higher Education and the State University of New York (SUNY).

Gerald and Henry provided background on how the project got started as well as the kinds of data that have been collected so far. The project has identified a wide range of success rates and has found that students in some institutions are more successful overall than others. What are the specific activities that increase success in mathematics at some institutions? How can other institutions learn from more successful ones? These are the issues under study. The project has also begun to identify policy issues that arise as they collect more data. It is clear even in the early stages of this project that the use of NCAT's course redesign methodology can contribute to greater math success. The interventions incorporated in successful large-scale redesigns have been crucial to student persistence and ultimate success. To learn more about this project, contact Margarita Benitez at mbenitez@edtrust.org.

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